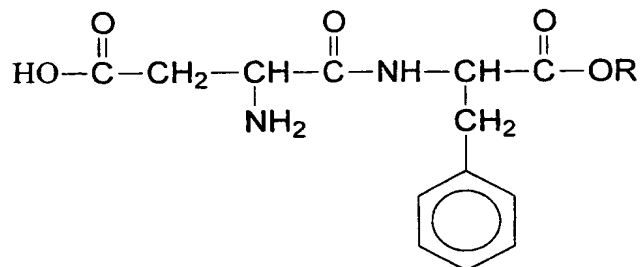


I CLAIM:

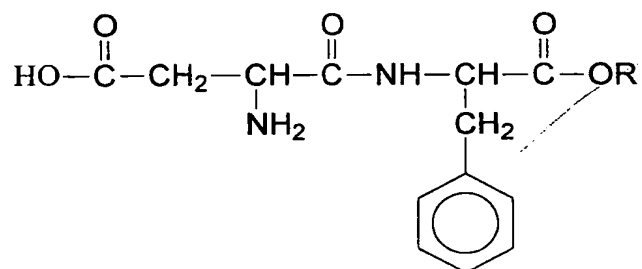
1. Use of the compound



where R is CH₃ or an alkyl to prepare a pharmaceutical composition useful for effecting a reduction in whole blood viscosity in a mammal.

2. The use of Claim 1, wherein said alkyl having 2 to 6 carbons.

3. A pharmaceutical preparation in dosage unit form adapted for administration to obtain a reduction in whole blood viscosity, comprising, per dosage unit, an effective, nontoxic amount of a compound comprising

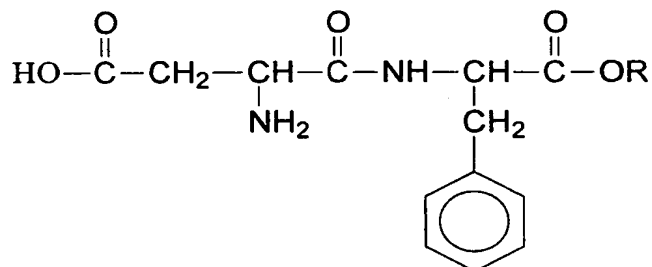


- 5 wherein R is CH₃ or an alkyl and a pharmaceutical carrier.

4. The pharmaceutical dosage form of Claim 3, wherein said alkyl having 2 to 6 carbons.

5. The pharmaceutical dosage form of Claim 3 or 4, wherein said dosage is from about 1 milligram to about 6 milligrams per kilogram body weight.

6. A method for treatment of high whole blood viscosity in a patient comprising administering in a treatment regimen to said patient an effective amount of a composition comprising



5 where R is CH₃ or an alkyl, wherein said treatment regimen is capable of reducing whole blood viscosity in said patient.

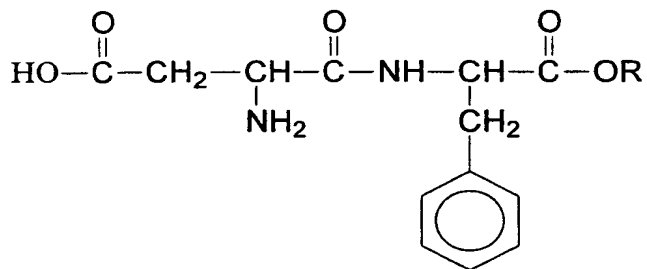
7. The method of Claim 6, wherein said alkyl having 2 to 6 carbons.

8. The method of Claim 6 or 7, wherein said effective amount is from about 1 milligram to about 6 milligrams per kilogram body weight.

9 A method for reducing whole blood viscosity in a patient blood sample, comprising the steps of:

- a. collecting a blood sample from said patient; and
- b. adding to said sample an effective amount of a composition comprising the

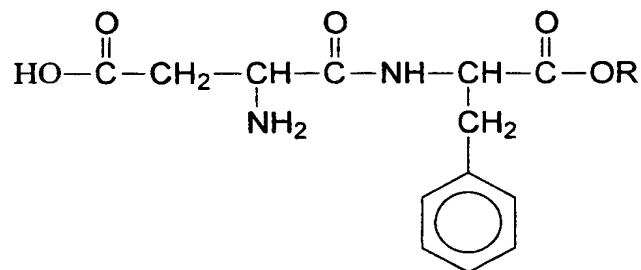
5 compound



wherein R is CH₃ or an alkyl, wherein said effective amount causes a reduction in whole blood viscosity.

10. The method of Claim 9, wherein said alkyl having 2 to 6 carbons.

11. A method for monitoring the reduction of whole blood viscosity in a patient receiving treatment with a composition comprising

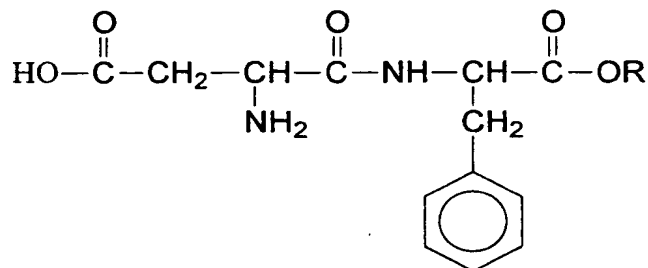


where R is CH₃ or an alkyl of 2 to 6 carbons, comprising:

- 5 a. at a first time point, collecting a blood sample from said patient to form a first patient sample;
- b. measuring the viscosity of said first patient sample to obtain a first viscosity value;
- c. at a second time point, collecting a blood sample from said patient to form a
- 10 second patient sample;
- e. measuring the viscosity of said second patient sample to obtain a second viscosity value; and
- f. comparing said second viscosity value to said first viscosity value,
- wherein a reduction of viscosity is demonstrated by said second viscosity value
- 15 being less than said first viscosity value.

12. The method of Claim 11, wherein said viscosity value is determined by drawing an aliquot of said patient sample into a pipette which is in a stationary vertical position and measuring the time required to expel a drop of said patient sample from said pipette using constant pressure to obtain a time interval as said viscosity value.

13. A screening method for determining if a patient's whole blood viscosity can be reduced by a treatment regimen with a composition comprising

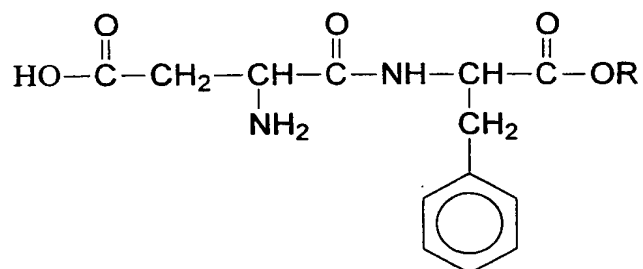


where R is CH₃ or an alkyl of 2 to 6 carbons, comprising:

- 5 a. collecting a blood sample from said patient prior to administration of said composition to form an untreated patient sample;
- b. measuring the viscosity of said untreated patient sample to obtain a baseline viscosity value;
- c. administering to said patient said composition at an amount from about 1
- 10 milligram to about 6 milligrams per kilogram body weight;
- d. after administering said composition to said patient, collecting a blood sample from said patient to form a treated patient sample;
- e. measuring the viscosity of said treated patient sample to obtain a post-treatment viscosity value; and
- 15 f. comparing said post-treatment viscosity value to said baseline viscosity value,
- wherein said post-treatment viscosity value being less than said baseline time viscosity value demonstrating said composition is capable of reducing whole blood viscosity in said patient and wherein said post-treatment viscosity value being greater than or equal to said baseline viscosity value demonstrating said composition is not
- 20 capable of reducing whole blood viscosity in said patient.

14. The method of Claim 13, wherein said viscosity value is determined by drawing an aliquot of said patient sample into a pipette which is in a stationary vertical position and measuring the time required to expel a drop of said patient sample from said pipette using constant pressure to obtain a time interval as said viscosity value.

15. A method for treating a patient having a disease characterized by abnormally viscous whole blood comprising administering in a treatment regimen to said patient an effective amount of a composition comprising



5 where R is CH₃ or an alkyl, wherein said treatment regimen is capable of reducing whole blood viscosity in said patient.

16. The method of Claim 15, wherein said alkyl having 2 to 6 carbons.

17. The method of Claim 15 or 16, wherein said effective amount is from about 1 milligram to about 6 milligrams per kilogram body weight.

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
5 April 2001 (05.04.2001)

PCT

(10) International Publication Number
WO 01/22983 A3

- (51) International Patent Classification⁷: **A61K 38/05**, [US/US]; 6313 Overcourt Manor, Oklahoma City, OK 73132 (US).
G01N 33/49, A61P 7/00
- (21) International Application Number: PCT/US00/25874 (74) Agents: **HANSEN, Eugenia, S. et al.**; Sidley & Austin, Suite 3400, 717 North Harwood, Dallas, TX 75201 (US).
- (22) International Filing Date: 21 September 2000 (21.09.2000) (81) Designated States (*national*): AU, CA, MX, US.
- (25) Filing Language: English (84) Designated States (*regional*): European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).
- (26) Publication Language: English
- (30) Priority Data: 60/156,119 25 September 1999 (25.09.1999) US **Published:**
— with international search report
- (71) Applicant (*for all designated States except US*): **OKLAHOMA MEDICAL RESEARCH FOUNDATION** [US/US]; 825 NE 13th Street, Oklahoma City, OK 73104 (US). (88) Date of publication of the international search report: 16 August 2001
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): **MANION, Carl, V.**

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **VISCOSITY MODULATING SUBSTANCE AND USE THEREOF**

(57) **Abstract:** It has now been found that N-L-alpha-aspartyl-L-phenylalanine 1-methyl ester (APM) lowers whole blood viscosity in patients, including those suffering from sickle cell disease and plasma cell dyscrasias. Upon in vivo APM treatment, patients experienced a significant lowering of whole blood viscosity. In vitro addition of APM to patients samples having elevated whole blood viscosity resulted in reduced viscosity over time. These in vitro and in vivo results identify APM as a therapeutic agent for molecular diseases which lead to elevated whole blood viscosity. A method by which APM treatment can be monitored is also disclosed.

WO 01/22983 A3

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/25874

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K38/05 G01N33/49 A61P7/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K G01N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

BIOSIS, EPO-Internal, WPI Data, PAJ, MEDLINE, CANCERLIT, CHEM ABS Data, EMBASE, SCISEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 97 00692 A (OKLAHOMA MED RES FOUND ; EDMUNDSON ALLEN B (US); MANION CARL V (US)) 9 January 1997 (1997-01-09) cited in the application page 39, line 17 -page 44, line 15 --- -/--	1-17



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

13 March 2001

Date of mailing of the international search report

23/03/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Stein, A

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/25874

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 1979 POKROVSKII A V ET AL: "HEMO RHEOLOGICAL DISORDERS IN PATIENTS WITH ATHERO SCLEROTIC LESION OF THE ABDOMINAL AORTA AND THEIR CORRECTION USING ASPIRIN" Database accession no. PREV198069069702 XP002162682 abstract & KARDIOLOGIYA, vol. 19, no. 2, 1979, pages 54-61, ISSN: 0022-9040</p>	
A	<p>MANION C V ET AL: "SICKLE CELL DISEASE AND ASPARTAME." CLINICAL PHARMACOLOGY & THERAPEUTICS,US,MOSBY-YEAR BOOK, ST LOUIS, MO, vol. 65, no. 2, February 1999 (1999-02), page 194 XP000891777 ISSN: 0009-9236 the whole document</p>	1-17
P,X	<p>WO 00 18418 A (EDMUNDSON ALLEN B ;MANION CARL V (US); OKLAHOMA MED RES FOUND (US)) 6 April 2000 (2000-04-06) cited in the application page 12, line 14 - line 18 page 19, line 1 -page 21, line 10 claims 1-29</p>	1-17
P,X	<p>MANION C V ET AL: "SICKLE CELL VISCOSITY ALTERATION WITH ASPARTAME" CLINICAL PHARMACOLOGY & THERAPEUTICS,US,MOSBY-YEAR BOOK, ST LOUIS, MO, vol. 67, no. 2, February 2000 (2000-02), page 102 XP000891560 ISSN: 0009-9236 the whole document</p>	1-17

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/25874

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9700692 A	09-01-1997	US 5654334 A	05-08-1997
		AU 722460 B	03-08-2000
		AU 6287896 A	22-01-1997
		CA 2225462 A	09-01-1997
		EP 0833651 A	08-04-1998
		JP 2000502318 T	29-02-2000
		US 5998473 A	07-12-1999
WO 0018418 A	06-04-2000	AU 6400899 A	17-04-2000

REC'D 12 NOV 2001

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PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 11146/11002	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/25874	International filing date (day/month/year) 21/09/2000	Priority date (day/month/year) 25/09/1999
International Patent Classification (IPC) or national classification and IPC A61K38/00		
Applicant OKLAHOMA MEDICAL RESEARCH FOUNDATION et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 6 sheets, including this cover sheet.

- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☒ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 18/04/2001	Date of completion of this report 07.11.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Deck, A Telephone No. +49 89 2399 8432 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/25874

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-14 as originally filed

Claims, No.:

1-14 as received on 12/10/2001 with letter of 12/10/2001

Drawings, sheets:

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/25874

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 3-5, 12-14.

because:

☒ the said international application, or the said claims Nos. 3-5, 12-14 relate to the following subject matter which does not require an international preliminary examination (*specify*):
see separate sheet

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Yes: Claims 1-14

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/25874

	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-14
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	
	No:	Claims	see separate sheet

2. Citations and explanations
see separate sheet

VI. Certain documents cited

1. Certain published documents (Rule 70.10)

and / or

2. Non-written disclosures (Rule 70.9)

see separate sheet

Section III:

Claims 3-5, 12-14 relate to subject-matter considered by this Authority to be covered by the provisions of Rule 67.1(iv) PCT. Consequently, no opinion will be formulated with respect to the industrial applicability of the subject-matter of these claims (Article 34(4)(a)(i) PCT).

Section V:

1. The following documents have been considered:

D1: WO 97 00692 A (OKLAHOMA MED RES FOUND ;EDMUNDSON ALLEN B (US); MANION CARL V (US)) 9 January 1997 (1997-01-09) cited in the application

D2: MANION C V ET AL: 'SICKLE CELL DISEASE AND ASPARTAME.' CLINICAL PHARMACOLOGY & THERAPEUTICS,US,MOSBY-YEAR BOOK, ST LOUIS, MO, vol. 65, no. 2, February 1999 (1999-02), page 194 XP000891777 ISSN: 0009-9236

2. Claims 1-14 are new and inventive as none of the prior art describes nor suggests the anti-viscosity activity of aspartame or its derivatives.
3. For the assessment of the present claims 3-5, 12-14 on the question whether they are industrially applicable, no unified criteria exist in the PCT Contracting States. The patentability can also be dependent upon the formulation of the claims. The EPO, for example, does not recognize as industrially applicable the subject-matter of claims to the use of a compound in medical treatment, but may allow, however, claims to a known compound for first use in medical treatment and the use of such a compound for the manufacture of a medicament for a new medical treatment.

INTERNATIONAL PRELIMINARY

International application No. PCT/US00/25874

EXAMINATION REPORT - SEPARATE SHEET

Section V

Certain published documents (Rule 70.10)

Application No Patent No	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
WO-A-0018418	06.04.2000	25.09.1999	25.09.1998

The priority of this document is validly claimed. Its content could therefore be relevant in the national phases.

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To: _____

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 17 July 2001 (17.07.01)	
International application No. PCT/US00/25874	Applicant's or agent's file reference 11146/11002
International filing date (day/month/year) 21 September 2000 (21.09.00)	Priority date (day/month/year) 25 September 1999 (25.09.99)
Applicant MANION, Carl, V.	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

18 April 2001 (18.04.01)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer H. Zhou Telephone No.: (41-22) 338.83.38
--	--

10/082713

Copy for the Elected Office (EO/US)

PCT/US00/25874

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

HANSEN, Eugenia, S.
Sidley & Austin Brown & Wood
Suite 3400
717 North Harwood
Dallas, TX 75201
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year) 23 April 2002 (23.04.02)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 11146/11002	
International application No. PCT/US00/25874	
International filing date (day/month/year) 21 September 2000 (21.09.00)	

1. The following indications appeared on record concerning:

☐ the applicant ☐ the inventor ☒ the agent ☐ the common representative

Name and Address HANSEN, Eugenia, S. Sidley & Austin Suite 3400 717 North Harwood Dallas, TX 75201 United States of America	State of Nationality	State of Residence
	Telephone No. 214-981-3315	
	Facsimile No. 214-981-3400	
	Teleprinter No.	

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☐ the name ☒ the address ☐ the nationality ☐ the residence

Name and Address HANSEN, Eugenia, S. Sidley & Austin Brown & Wood Suite 3400 717 North Harwood Dallas, TX 75201 United States of America	State of Nationality	State of Residence
	Telephone No. 214-981-3315	
	Facsimile No. 214-981-3400	
	Teleprinter No.	

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned
☐ the International Searching Authority ☒ the elected Offices concerned
☒ the International Preliminary Examining Authority ☐ other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Anne BEUCHAT Telephone No.: (41-22) 338.83.38
---	--

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 11146/11002	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 00/ 25874	International filing date (day/month/year) 21/09/2000	(Earliest) Priority Date (day/month/year) 25/09/1999
Applicant OKLAHOMA MEDICAL RESEARCH FOUNDATION et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

T/US 00/25874

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 A61K38/05 G01N33/49 A61P7/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K G01N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

BIOSIS, EPO-Internal, WPI Data, PAJ, MEDLINE, CANCERLIT, CHEM ABS Data, EMBASE, SCISEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 97 00692 A (OKLAHOMA MED RES FOUND ; EDMUNDSON ALLEN B (US); MANION CARL V (US)) 9 January 1997 (1997-01-09) cited in the application page 39, line 17 -page 44, line 15 --- -/--</p>	1-17



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International Application No

T/US 00/25874

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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